CLAIMS:

1. A method of extracting desired features from a cellular image comprising the steps of:

(a)   Selecting an initial cell within said image;

(b)   Selecting an additional cell, near said initial cell, appearing to be associated with a desired feature;

(c)   Repeating step (b) for further cells, near at least one of said previously selected cells, appearing to be associated with said feature, until selection termination criteria are satisfied; and

(d)   Repeating steps (a) through (c) for other initial cells.

2. A method according to claim 1, wherein said image is a 2D image and said cells are pixels.

3. A method according to claim 1, wherein said image is a 3D image and said cells are voxels.

4. A method according to claim 1, wherein said image is relatively noisy and said features are relatively weakly defined.

5. A method according to claim 1, wherein a plurality of said features intersect and are extracted from said image as different objects.

6. A method according to claim 1, wherein data used to create said cellular image has been pre-processed to enhance said desired features in said cellular image.

7.	A method according to claim 1, wherein said initial cells are selected in step (a) by subdividing said cellular image into blocks and selecting cells within said blocks having maximum values of an objective function.

8.	A method according to claim 1, wherein an apparent orientation of said feature is determined after said initial cell is selected in step (a) and prior to the selection of an additional cell in step (b).

9.	A method according to claim 8, wherein the apparent orientation is limited to expected orientation values.

10.	A method according to claim 1, wherein a viewfield is established to narrow the candidate cells for selection in step (b), said viewfield being aligned with said determined apparent orientation of said feature.

11.	A method according to claim 1, wherein said further cells are located within a tracing viewfield associated with at least one of said previously selected cells.

12.	A method according to claim 1, wherein the selection of cells in step (c) is positively influenced by the previous selection of said cells during previous iterations of step (c).

13.	A method according to claim 1, wherein selection of a cell in step (c) updates a "pheromone" value associated with said cell.

14. A method according to claim 1, wherein steps (a) through (c) are repeated at least hundreds of times.

15. A method according to claim 1, wherein segments of said features are extracted and at least some of said segments are then merged.

16. A method according to claim 15, wherein said segments are merged if they meet expected feature characteristics.

17. A method according to claim 15, wherein said segments are merged by a competitive merging process.

18. A method according to claim 1, wherein measures of confidence are associated with said extracted features.

19. A method according to claim 18, wherein said measures of confidence increase if magnitudes of "pheromone" values associated with cells comprising said features increase.

20. A method according to claim 18, wherein said measures of confidence increase if average function values across said features increase.

21. A method according to claim 18, wherein said measures of confidence increase if the number of cells comprising said features increase.

22. A method according to claim 18, wherein said measures of confidence increase if variances of local properties of merged segments comprising said features decrease.

23. A method according to claim 1, wherein said cellular image is derived from one of seismic data, magnetic resonance imaging data, and computed tomography data.

24. A method according to claim 1, wherein said desired features comprise faults.

25. A method according to claim 1, wherein said desired features comprise geologic horizons.

26. A method according to claim 1, further comprising the step of displaying the orientations of said features.

27. A method according to claim 26, wherein said orientations of said features are displayed on a stereo net.

28. A method according to claim 26, wherein properties of or confidence measures associated with said features are displayed on a stereo net according to the orientations of said features.

29. A method according to claim 26, further including the step of allowing an interpreter to interactively edit or filter said features using said displayed orientations.

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30.	A computer system for extracting desired features from a cellular image, comprising:

(a)	means for selecting an initial cell within said image;

(b)	means for selecting an additional cell, near said initial cell, appearing to be associated with a desired feature;

(c)	means for selecting further cells, near at least one of said previously selected cells, appearing to be associated with said feature, until selection termination criteria are satisfied; and

(d)	means for selecting other initial cells, additional cells, and further cells using said means for selecting an initial cell, said means for selecting an additional cell, and said means for selecting further cells.

31.	A computer program product for extracting desired features from a cellular image, said computer program product comprising:

a computer useable medium having computer readable program code embodied in said medium for extracting desired features from a cellular image, said computer program product having:

(a)	computer readable program code means for selecting an initial cell within said image;

(b)	computer readable program code means for selecting an additional cell, near said initial cell, appearing to be associated with a desired feature;

(c)	computer readable program code means for selecting further cells, near at least one of said previously selected cells, appearing to be associated with said feature, until selection termination criteria are satisfied; and

(d)	computer readable program code means for selecting other initial cells, additional cells, and further cells using said computer readable program code means for selecting an initial cell, said computer readable program code means for selecting an additional cell, and said computer readable program code means for selecting further cells.